

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 7, and continuing to page 1, line 11, as follows:

The present technology relates to an exchangeable power-supplying module that can be connected to a device. In particular, the technology relates to a power-supplying module for providing an additional external function to a device. More particularly, the technology relates to a power-supplying module for providing an additional external function to a handheld device.

Please amend the caption on page 1, line 13, as follows:

Background of the invention

Please amend the caption on page 3, line 14, as follows:

Brief Summary of the invention

Please amend the paragraph beginning at page 3, line 16, and continuing to page 3, line 19, as follows:

In the light of the drawbacks associated with prior art as described above the technology discloses a module that is formed by supplying an existing, integral and exchangeable part of a compact intelligent device with the hardware and possible software needed for providing an additional functionality to the device.

Please amend the paragraph beginning at page 3, line 27, and continuing to page 3, line 34, as follows:

However, intelligent devices are usually provided with a power supplying battery that forms an integral and exchangeable part of the device. These batteries are comparably large and

they are usually easy to access without any complex dismounting of other parts of the device.

Thus, according to the ~~invention-present technology~~ the hardware and possibly software needed for an external additional functionality (add-on function) are incorporated into the comparably large, integral and exchangeable power supplying battery of the device in question.

Please amend the paragraph beginning at page 4, line 1, and continuing to page 4, line 5, as follows:

In addition, the power supplying battery according to the ~~invention~~ an example embodiment is supplied with a data-bus and possibly a control-bus to communicate the pre-processed information provided by the module to the device, which facilitates the communication between the device and the add-on function that is incorporated into the battery.

Please amend the paragraph beginning at page 4, line 23, and continuing to page 4, line 24, as follows:

Further advantages of the present ~~technologyinvention~~ will appear from the following detailed description of preferred example embodiments ~~the present invention~~.

Please amend the paragraph beginning at page 4, line 28, and continuing to page 4, line 29, as follows:

Preferred embodiments of the present ~~technologyinvention~~ will now be described with reference to the accompanying drawings, in which:

Please amend the paragraphs beginning at page 5, line 5, and continuing to page 5, line 10, as follows:

Fig. 3A shows a graphic front view of a mobile phone provided with an exchangeable power supplying battery according to the present ~~technologyinvention~~.

Fig. 3B shows a graphic rear view of the mobile phone in fig. 3A, provided with a first exemplary exchangeable power supplying battery according to ~~the present invention~~ an example embodiment.

Please amend the paragraph beginning at page 5, line 15, and continuing to page 5, line 16, as follows:

Fig. 3D shows a rear view of a first exemplary exchangeable power supplying battery according to ~~the present invention~~ an example embodiment.

Fig. 3E shows a graphic rear view of the mobile phone in fig. 3A, provided with a second exemplary exchangeable power supplying battery according to ~~the present invention~~ an example embodiment.

Please amend the caption on page 6, line 1, as follows:

Detailed description of ~~preferred example~~ example embodiments of the invention

Please amend the paragraphs beginning at page 6, line 4, and continuing to page 6, line 16, as follows:

The present technology can be implemented in a number of intelligent devices having a compact, highly integrated and small sized design that is required to support an addition of various new external functionalities. A non-exhaustive list of such intelligent devices are laptops, personal digital assistants (PDA:s), digital notebooks, play-gadgets, mobile phones, land-radios (e.g. walkie-talkies) etc.

A function-module according to the present ~~technology~~ invention may comprise a vast number of different functions, for example a data modem (e.g. WLAN-modem), a positioning function (e.g. GPS or a gyro, or even a 3D-gyro), a biometric surveillance function (e.g. pulse beat surveillance), a digital camera, a memory, a mass-storage, a memory/IO-card (e.g. MemoryStick, MMC, Compact Flash, etc), an MP3-player, a radio receiver or other sounding or

picturing functions. It should be noted that the ~~technology invention~~ may comprise one or several functions.

Please amend the paragraph beginning at page 6, line 20, and continuing to page 6, line 24, as follows:

An example ~~embodiment of the present invention~~ will now be described in connection with fig. 1A, using a hand-held wireless mobile phone 100 as an example. The wireless mobile phone 100 could be a short-range DECT-phone or a long-range GSM-, CDMA-, or WCDMA-phone, or any other suitable wireless mobile phone.

Please amend the paragraph beginning at page 8, line 31, and continuing to page 9, line 3, as follows:

Figure 1A schematically illustrates that the phone 100 has an integral and exchangeable battery 200 for supplying the phone 100 with electric power. The power supplying battery 200 comprises a chargeable portion 210 in which electric charges are accumulated. The chargeable portion 210 of the battery 200 is similar or identical to the chargeable portion of ordinary batteries that are commonly used to provide electric power to mobile phones or similar. For the sake of clarity and due the schematic character of fig. 1A, the physical circuitry for supplying the phone 100 with electric power from the battery 200 and the physical circuitry for communicating data signals between the battery 200 and the other units in the phone 100 has been omitted in fig. 1A. However, fig. 2 shows schematically a battery 300 according to a second embodiment of the present ~~technology invention~~ and the physical circuitry described below in connection with fig. 2 applies mutatis mutandis to the battery 200.

According to a first example ~~embodiment of the invention~~ the battery 200 has been provided with a circuit board 220, which forms a processing unit by comprising the necessary

processing hardware and possible software needed to supply the wireless mobile phone 100 with an external add-on function. The processing unit 220 may be supplied with power from the chargeable portion 210, though other power supplying means are conceivable, and it is preferred that the processing hardware is provided with at least one processing unit, e.g. a silicon chip comprising a microprocessor. The chargeable portion 210 of the battery 200 may be somewhat smaller compared to the chargeable portion in ordinary batteries, since the battery 200 has to reserve some space for the circuit board 220.

Please amend the paragraph beginning at page 9, line 23, and continuing to page 9, line 29, as follows:

Some example embodiments of the present invention may have a serial data-bus, e.g. the industry-standard USB (Universal Serial Bus), according to the USB 2.0, established in April 27, 2000. Other embodiments of the present invention may have a parallel data-bus, e.g. the data-bus used in connection with the industry-standard PCMCIA (Personal Computer Memory Card International Association), according to the PCMCIA 2.1, established in 1993. Moreover, the data-bus 230 is not limit to an electrical transmission of data. On the contrary, an optic transmission or a radio transmission may also be used in some embodiments.

Please amend the paragraph beginning at page 10, line 8, and continuing to page 10, line 11, as follows:

As the general constitution of an exemplary battery 200 according to the present technology invention has been schematically described above the attention is now turned to the processing hardware and possible software within the battery 200, i.e. the processing hardware and possible software needed to provide the phone 100 with an external add-on function.

Please amend the paragraphs beginning at page 12, line 28, and continuing to page 13, line 4, as follows:

The present ~~technology invention~~ has been described above in connection with an exemplary wireless mobile phone 100. Such a mobile phone 100 is normally equipped with a comparably high processing capability. However, there are other devices with considerably lower processing capability. One possible category of such devices is portable hand-held land-radios, e.g. land-radios used by police, firefighters or other security, surveillance or rescue personnel. This category may, amongst other devices, include more or less advanced walkie-talkies or similar two-way radios.

Figure 2 shows schematically a battery 300 according to a second example embodiment ~~of the present invention~~. The battery 300 is preferably an integral and exchangeable power supplying battery of a hand-held wireless land-radio 400, though other devices beside land-radios are clearly conceivably. The battery 300 comprises a chargeable portion 301, a cryptographic circuit 312 for coding/decoding voice and data, and possibly a mass-storage 319 for storing data. It should be understood that the battery 300 may comprise several chargeable portions and/or several circuits that provide a land-radio 400 or similar with several add-on functions.

Please amend the paragraph beginning at page 16, line 13, and continuing to page 16, line 20, as follows:

If data is stored in a mass-storage 319 arranged in the battery 300 as described above it is possible to detach the battery 300 from the land-radio 400 and move the data to another land-radio. It is also possible to move the data to another device that uses the same kind of battery and the same kind of interface as the land-radio 400, which facilitates a true modularity. In addition, some example embodiments ~~of the present invention~~ may well have the data stored as encoded data, whereas a decoding may be executed when the data is used by the land-radio 400. Data to be transmitted as well as data that are received can be stored in an encoded format.

Please amend the paragraph beginning at page 17, line 23, and continuing to page 17, line 38, as follows:

As can be seen in fig. 3C the battery 300 has a rigid casing 321, which comprises a chargeable portion 301, as illustrated by the sloped lines in fig. 3C. The casing 321 also comprises two integrated circuits 329, 330. These circuits may be a cryptographic circuit and a digital mass-storage circuit, or some other hardware that is needed to supply the phone 100 with an add-on function. A chamfered upper end 326 of the battery 300 is preferably wedge-shaped to fit the corresponding groove 416 arranged in an upper part of the rear battery recess of the mobile phone 100. A slanted surface 324 is arranged at a lower end of the battery 300 to fit the corresponding slanted surface 417 arranged in a lower end of the rear battery recess of the mobile phone 100. In addition, a bore 322 is arranged at a lower part of the battery 300 for receiving a battery screw 323. The battery screw 323 can be screwed into the threaded bore 415 arranged in the mobile phone 100 for fastening, fixating and tightening the battery 300 to the phone 100. Some
embodiments of the invention may naturally have several screws 323 and several corresponding bores 305. The battery 300 may also have a tightening rubber seal 325 or similar arranged along the sides of the battery 300 to tighten the contact surfaces between the battery 300 and the phone 100 from water and moist. The area adjacent to the screw 323 may also be provided with a tightening rubber seal.

Please amend the paragraph beginning at page 18, line 19, and continuing to page 18, line 25, as follows:

Turning now to fig. 3E-3F, which illustrates the mobile phone 100 with a *second* exemplifying power supplying battery 200 according to an example embodiment of the present invention. Figure 3E shows the rear side of the phone 100, while fig. 3F shows a side view of the phone 100 and the second exemplifying battery 200, cut along the line IIII in fig. 3E. Both fig. 3E and fig. 3F show the battery 200 attached to the phone 100 and illustrates that the second exemplifying battery 200 has a rectangular shape, though other shapes are clearly conceivable.